

setæ, normal. Spiracles large, circular, Eucleid-like, a soft, eversible, colorless space above tubercle vi on the segments with feet.

Head black, the sutures pale; labrum white. Body with the dorsum broadly black, containing a narrow white dorsal line, a broader pale orange addorsal line, darker orange at the slightly elevated tubercles i and ii, especially on joints 3, 12 and 13; a narrow white subdorsal line. Lateral region colorless; a broad white lateral line above tubercle iii, edging the black dorsum; a narrow white stigmatal and a subventral line. Spiracles yellowish; setæ pale. Anal plate whitish, slightly marked with black. Skin finely transparent granular, the markings appearing as if below the surface, as is so common in the Eucleidæ. Hooks of the abdominal feet in a half circle on the inner side of the planta. Length of the larva 8 to 9 mm. Width of head about 1.3 mm.

Cocoon.—Rounded, flattened on two sides by the leaves between which it was spun, of a firm hard texture like the cocoon of the Eucleidæ and of the same dark brown color. There is, however, no lid for the emergence of the moth, but the pupa forced a crack along one side where the cocoon was angulated by the leaf and emerged entirely on the escape of the moth. The pupa is simply a soft transparent yellowish skin without cremaster, possessing the usual Tineid characters.

NEW CALIFORNIAN SPIDERS.

BY NATHAN BANKS.

Most of the following new species of spiders were contained in a collection sent me for determination by Prof. V. L. Kellogg, of Leland Stanford Junior University.

THERAPHOSIDÆ.

Atypoides californica, sp. nov.

Length ceph. 5.5 mm., breadth, 4 mm.; abdomen long 6 mm. The cephalothorax is pale, head fusco-olivaceous, mandibles still darker, legs and sternum pale, abdomen brownish, venter lighter. Eyes similar to *A. riversi*, but the cephalothorax plainly broader than in that species; the groove simply a round impression, not elongate; legs shorter and more spiny than in *A. riversi*, there being a few spines on anterior tarsi, smooth spaces above on the patellæ; second joint of palpi almost as long as the anterior femora; six spinnerets, the small pair thicker than in *A. riversi*, superior pair shorter than in that species, the last joint not longer than the penultimate, and conical in shape.

Black Mt., Calif., Oct. 23, trap-door alongside of creek. Mr. R. W. Doane, collector.

DRASSIDÆ.

***Pœcilochoa pacifica*, sp. nov.**

Length 7 mm. Cephalothorax and legs reddish, latter darker toward tips; mandibles red brown; sternum reddish; abdomen black, with a broad white stripe on each side above, reaching from base to beyond middle, connected at middle; some indistinct pale chevrons above the black spinnerets; venter black, with a large basal area pale. Much resembling, at first sight, *P. variegata*, but different pattern on abdomen, and pale anterior legs and mandibles; the dorsal groove longer and more distinct; the posterior row of eyes straight, or barely recurved, the P. M. E. more than once their diameter apart; the sternum broader. The epigynum shows a nearly circular dark area, with a narrow transverse cavity in its posterior part.

Univ. Campus; Nov. [R. W. Doane].

AGALENIDÆ.

***Agalena pacifica*, sp. nov.**

Length 8-12 mm. Cephalothorax pale yellowish, seam black, a straight black stripe each side; mandibles rather reddish; sternum reddish or yellowish; legs yellowish, often with rather indistinct dark bands; abdomen pale, with a black stripe each side above, a curved line partly around the spinnerets, and a line on each side of venter, black; epigynum reddish. P. M. E. about their diameter apart, farther from the P. S. E.; A. M. E. hardly one-half their diameter apart, and as close to the A. S. E.; last joint of the superior spinnerets no longer than the penultimate. The epigynum consists of a large rounded cavity, broader than long, opening behind into a cavity that extends to the transverse groove. The male palpi are black, the tibia much longer than broad, rather curved on the outer side, and has at base a double projection, each branch with a rounded tip, and at its tip, on the under side, a short straight projection; the tarsus is not prolonged much beyond the bulb, there is a short curved tube at tip of bulb, a curved plate on inner side toward base, and some short pieces near the center.

Palo Alto and Black Mt.; Oct. and Nov. [R. W. Doane.].

***Agalena californica*, sp. nov.**

Length 7-10 mm. Cephalothorax pale yellow, with a black seam, and a straight black stripe each side; mandibles more reddish; sternum pale in middle, always dark on sides; legs pale, darker toward tip, and with many black bands; abdomen thickly spotted with black, forming a stripe each side, two curved pale marks at base, followed by pale spots; venter with a black line each side, and black spots on middle. Eyes similar to *A. pacifica*; apical joint of superior spinnerets nearly twice as long as penultimate; epigynum shows a cavity much broader than long, and the anterior margin at middle projecting backward. The tibia of the male palpus is about as long as broad, with a corcave hard piece on the outer side, the basal ridge of which

is rather prominent; at the tip on the under side is a curved projection; on the inner side of bulb is a long pointed piece, and near the tip is a short, stout tube.

Palo Alto and Black Mt., Oct. and Nov. [R. W. Doane].

Tegenaria californica, sp. nov.

Length 3.5 to 4 mm. Cephalothorax pale, with a black margin, dark spots on the radial furrows, a larger one over the dorsal groove, which gives off branches, the narrower pair curve to the P. S. E., the broader pair extend to the P. M. E.; eyes on black spots; mandibles testaceous, sternum blackish; abdomen black, with white spots, mostly near base, and some narrow chevrons near tip; venter spotted, the spinnerets black; legs pale, four marks on underside of femora, one on patellæ, three on tibiæ, two or three on metatarsi. Cephalothorax low, moderately broad; anterior row of eyes straight, A. M. E. smaller than others, hardly one-half their diameter apart, posterior row procurved, the P. M. E. fully their diameter apart, and as far from the equal P. S. E.; sternum broad, pointed between hind coxæ, sides rounded; legs long, with scattered slender spines and hairs; abdomen nearly twice as long as broad, pointed behind. The epigynum shows two oblong dark marks, reddish and separated at base, black and united at tip. The tibia of the male palpus has a furrow at base, with a ridge each side, and a small projection at tip; tarsus very large, almost globose, with a slender tip, half as long as the main part, the bulb is circular, not much convex, with a stout, short, curved tube from centre, and a hyaline sheath.

Black Mt. and Univ. Campus; under boards, etc., Nov. [R. W. Doane].

EPEIRIDÆ.

Epeira excelsa, sp. nov.

Length ♀ 7 mm.; abdomen 5 mm. wide at base. Cephalothorax and legs pale yellow or brownish-yellow, usually without markings except bands at tips of metatarsi and hind tibiæ; sternum brown; abdomen brown or yellowish, a pale yellow band connecting the two basal humps, beyond sometimes with two blackish spots; venter dark in middle, with an indistinct yellowish mark each side. A. M. E. twice their diameter apart, P. M. E., fully once their diameter apart, scarcely larger than the A. M. E.; cephalothorax clothed with whitish hair; legs with many spines; sternum triangular, broader than long, abdomen broader than long, with a large conical hump each side above, rounded at tip. The epigynum has a short stout finger lying across a transverse area, the finger reaching but little beyond the furrow.

Palo Alto, Calif., May. [R. W. Doane].

Zilla californica, sp. nov.

Length ♀ 7 mm., ceph. 3.3 mm. long, 2.5 mm. broad, tibia I 3.5 mm. The cephalothorax is whitish, marginal seam black, a large triangular black spot over the pars cephalica, somewhat ragged around dorsal groove, extending down on clypeus and on red-brown mandibles, sometimes showing darker middle and side-lines; sternum pale, broadly margined on the sides with black; legs pale, with black bands at middle and tip of femora, tip of patellæ, middle and tip of tibiæ, and less distinct beyond; abdomen grayish, with a broad folium, rather silvery near the middle, black

on edge and margined with silvery; sides finely striped with black; venter with a broad black stripe, narrowed toward tip, then widened to surround the dark spinnerets. A. M. E. more than their diameter apart, P. M. E. about their diameter apart, much farther from the S. E.; first pair of legs much the longest, three spines above on femur IV; abdomen elliptical; the epigynum shows a dark transverse arca, three times as wide as long, and behind with a small projection from the middle.

Palo Alto, Calif.; Oct. and Nov. [R. W. Doane]; also Olympia, Wash.

Misumena californica, sp. nov.

Length 7 mm. Cephalothorax brownish, with a broad white middle stripe; mandibles white, brownish at base; sternum and legs pale yellowish; abdomen rather dirty whitish, with indistinct veinings and some black dots near center; venter pale, sometimes with a few black spots in middle. Cephalothorax as broad as long, equal to tibia I; P. M. E. a trifle further apart, but no larger than A. M. E.; legs thickly clothed with stiff bristles, four or five pairs of spines under tibia I, six or seven under metatarsus I; sternum not broad; abdomen broadest behind middle, quite high, pointed at tip; the epigynum shows a semi-circular cavity, divided by a narrow septum, and two holes behind.

Los Angeles, California, [A. Davidson].

Misumena pictilis, sp. nov.

Length 5 mm. Cephalothorax greenish yellow, black on anterior side margin, three black dots on each side in a straight row behind the P. S. E., eyes on white spots; mandibles greenish, each with a black point; legs greenish yellow, with some scattered black dots on the anterior pairs; sternum yellowish; abdomen greenish white, with a large reddish brown spot above, narrower in front, pointed behind, outlined by black dots and some others scattered in it, two large white spots near base and a series of double white spots behind; venter pale. Cephalothorax as broad as long, shorter than tibia I; P. M. E. barely further apart, and hardly larger than A. M. E.; legs slender, spines long, four pairs under tibia I, five or six under metatarsus I; sternum shield shaped; abdomen broadest behind the middle; the epigynum shows a rounded cavity, broader than long, divided by a rather broad septum, which is widened near the middle.

Palo Alto, California. [Stanford University Coll.].
